Abstract

Vascular ring anomalies were congenital malformation of the great vessels, caused by defects in embryogenesis of the aortic arches. In dogs the most common type is persistent right aortic arch (PRAA). The PRAA occurs when the fourth right aortic arch persists instead of left to form the aorta. This malformation causes extraluminal compression of the esophagus up to the base of the heart. The constriction leads to esophageal dilatation secondary, located cranial to the base heart. The food, which can not progress beyond the narrowing, is regurgitated intermitently. Thus, the main clinical sign of disease is regurgitation when the patient starts eating solid foods. Respiratory clinical signs (mainly pneumonia by aspiration) may occur and can complicate the disease. The diagnosis is suspected by history (puppies at weaning) and physical examination. The diagnosis is confirmed by the esophagogram, where the image is characteristic (esophageal dilatation cranial base of the heart). The treatment of the affection is surgical, with transection and ligature of the vascular ring, viewed during thoracotomy by fourth intercostal space. The postoperative management which consists mainly of liquid diet and/or pasty is important for total recovery of the animal. In some cases, the animal must receive a special diet for life to prevent regurgitation. However at long term, most operated animal presents important sequelae. These sequelae include respiratory disorders and low development of animal. The objective of the present paper is to relate a case of bitch with persistent right aortic arch, successful treated surgically, without serious clinical consequences. Case: A mongrel bitch with 2 months of age was attended at the Veterinary Hospital of the Federal University of the Piauí, Brazil, with vomiting. At the clinical examination was observed increase in volume in the cervical region. Radiographic examination revealed dilatation cranial to the heart base, characterizing megaesophagus. The diagnosis was PRAA. The dog was submitted at thoracotomy by fourth right intercostal space. The ligamentum arteriosum was localized and ligated at the distal and cranially. During transoperative was made blood transfusion for correction of the anemia detected in preoperative period. The chest wall was closed routinely. Two days after surgery the dog was discharged. The postoperative diet consisted of liquids for a week, followed by semi-solid food always in bipedal position. After discharge, the owner returned for monthly visits for a year, with completion of physical examination and radiographs. Discussion: PRAA is most common in purebred dog, but in this case the animal is a mixed breed dog. The diagnosis was suspected due to history, and confirmed by esophagogram, where there was megaesophagus cranial to the heart base, according by literature. The surgical treatment, rapidly decided, and the absence of pneumonia, which is the main complication postsurgical, contributed to the observed good results. The blood transfusion to correct
anemia also was important for the recovery of the animal. There is an esophageal dilatation after one year, however no clinical manifestation occurs. The dog has a normal life. Excellent results as in the case reported here have a slower rate than 10%.

Keywords
Congenital malformation, esophagus, megaesophagus, surgery.